Bringing Alaska and the Yukon closer to the world



United States Senator Frank H. Murkowski

Informational Packet on S. 2253
Introduced during the 106th Congress of the United States Senate
June, 2000

Here is an Op-Ed on the Senator's view on expanding railroads in Alaska. It was put into the public domain on March 15, 2000, just prior to the introduction of S. 2253, the Rails to Resources Act of 2000.

Let's Get Alaska's Economy Back on Track by Extending Railroads

By Senator Frank Murkowski

Back in April 1915, President Woodrow Wilson decided that construction of a railroad to Alaska's Interior was the single greatest step he could take to unlock the then territory's great promise and to get the region's economy on track.

Some eighty-five years later times have *not* changed.

Alaska and the neighboring Yukon Territory in Canada are still North America's last uptapped storehouse of mineral and natural resource wealth. We now know where much of that treasure lies — economic transportation to get the materials to market being the chief impediment to its development.

Over the years one thing has changed: We now know how to develop our mineral, energy and timber resources in an environmentally sensitive manner, so we can protect the beauty and the wildlife of the North, while producing jobs to sustain the region's human inhabitants.

We know there is a mineral zone that extends throughout the Yukon-Tanana uplands near Faro, Y.T., north to Fairbanks. The zone, home already to the Fort Knox gold mine in Alaska and the future home of mines working the huge Pogo gold deposit, contains large amounts of silver, tungsten, copper, lead, zinc and other ores. On the Alaska side of the border there are already more than 14 major hardrock deposits identified, while in the Yukon there are more than 10 major mineral deposits known. This does not include the Alaska coal deposits a line could move to Lower 48 or East Asian markets.

The same zone is also filled with timber. Within just 15 miles of a likely 1,200-mile railroad corridor through Canada into Alaska, there are 1.4 billion board feet of hardwood pole timber and almost 1.7 billion board feet of mixed pole timber.

Further to the North lies a second



Senator Frank H. Murkowski of Alaska

developmental target that another railroad could help get on track. That is the huge low-pollution, high-quality coal deposits at Point Lay and also the vast minerals of the Amber mining district farther to the southeast.

It would take just a 90-mile line to carry the coal from Point Lay to the Red Dog mine where a 60-mile line along the existing mine haul road would carry it to tidewater. Such a railroad could bring energy, in the form of coal, to the mine where it could be used to power a new electro-refining technology that would add tremendous value to the zinc-lead ore being shipped from Alaska, and most importantly provide additional jobs to the region. It also would finally allow some of the North Slope's 6 trillion tons of coal to be exported.

It would take just a 150-mile line to access the vast hard-rock resources of the Ambler Mining District and bring them to the coast, or about a 350-

mile line to tie into the Alaska Railroad heading south.

Some would say talk of railroad extension is nothing more than "pie-in-thesky" rhetoric. But railroads offer a host of benefits. They are the most energy efficient form of transportation. More importantly, they are one of the most environmentally sensitive forms of transportation. Railroads offer controlled access that removes the environmental threat of uncontrolled development. They emit the lowest levels of air pollution and usually cause the least disruption to the land.

And a rail corridor would encourage the co-location of all pipelines and power transmission lines — a process that makes especially good

I propose a public/private alliance to conduct a comprehensive feasibility study. Let's join forces to make a modest investment to examine this carefully.

- US Senator Frank H. Murkowski, speaking to the CAN/AM Border Trade Alliance in September of 1999

environmental sense.

Last year, after talks with Canadian Parliamentarians during the Canada-U.S. Interparliamentary Conference, I held discussions with Canadian Ambassador Raymond Chretien and Canadian Minister of Transport David Collinette, and later with the Canadian-American Border Trade Alliance. In January I was further encouraged by estimates that their might be 120 million tons of freight a year from new mines and timber development along the Alaska-Canada rail corridor that would utilize such a new railroad link.

Thus I am introducing legislation in Congress to advance consideration of that railroad project. My bill will create an impartial bilateral commission to study the economic, environmental and engineering feasibility of completing the transcontinental railroad linking Canada with Alaska.

A joint commission should have the funding — I'm proposing \$6 million — and the authority to oversee a comprehensive feasibility study of a line from where the Canadian rail system ends at either Fort Nelson or near Fort St. James, about 900 miles from the Alaska border, northward to link up with the Alaska Railroad, 270 miles from the border near Fairbanks.

My bill would create an 18-member commission, half being appointed by each country. The commission would be fully representative of the residents of the area and also include scientific expertise to make sure that the difficult issues surrounding a railroad will be thoughtfully considered.

Quick action to set up the commission is particularly timely since a decision is likely within the next year on whether the United States should proceed with construction of an anti-missile defense system. And perhaps the best site for an initial 100-missile intercepter base is at Delta. That decision might justify extending the railroad to Fort Greeley, 80 miles closer to the border than Eielson Air Force Base — reducing the amount of additional track needed in Alaska to about 190 miles.

We should not be afraid to think seriously about big projects. Just because they're daunting, doesn't make them impossible. In this day and age of great concern for the environment: if one assumes — as I do — that the resources of the Yukon and Alaska inevitably will be developed, then rail looks like a very healthy way to make that possible.

All the commission will do is bring about debate. It will consider and explore new ideas. If a railroad connection is economically, environmentally and socially sound, then we should move ahead with it. If it is not, then it should be dropped. But at the very least, let's give the idea an honest hearing, now before any more decades pass.

-30-

Resolution of Support for a U.S.-Canada Cooperative Feasibility Study on Extending the North American Rail System through British Columbia, the Yukon Territory, and to Alaska

Alaska-Canada Rail Link Conference, January 20, 2000, Vancouver, BC

Whereas, rail transportation is the most cost-effective long distance method of overland transportation; and,

Whereas, rail transportation is an essential component of the North American inter-modal transportation system; and,

Whereas, rail transportation is energy efficient, capable of moving goods three to nine times as far as highway transportation with a given amount of fuel; and,

Whereas, rail transportation emits lower levels of carbon monoxide, carbon dioxide, nitrogen oxides and volatile organic compounds than other modes of freight transportation; and,

Whereas, rail transportation systems allow controlled access and reduced overall impacts to environmentally sensitive regions; and,

Whereas, rail transportation remains an important component of national and continental defense planning; and,

Whereas, the continental rail system cannot be said to be complete until it includes all states, provinces and territories; and,

Whereas, the Government of Alaska recently enacted legislation to reauthorize the delineation and acquisition of a rail transportation corridor from the present terminus of the Alaska Railroad to the Alaska-Yukon border; and,

Whereas, Alaska, the Yukon Territory, and British Columbia contain extensive oil and gas, mineral and timber resource reserves that currently are inaccessible, and require bilateral cooperation in the development of freight transportation infrastructure to facilitate their utilization for the benefit of the United States and Canada; and,

Whereas, northern rail transportation may provide significant potential for the visitor industry by facilitating the comfortable movement of passengers over long distances while minimizing the impact of such movement on the surrounding environment; and,

Whereas, ongoing research and advancement in rail technology continues to increase the efficiency of rail transportation, ensure rail safety, and decrease the impact of rail transportation on the environment,

Therefore be it resolved, that the undersigned call upon the United States and Canada to engage in a cooperative feasability study to examine the costs and benefits of constructing a rail connection to link Alaska and the Yukon Territory via northern British Columbia with the existing North American rail system; and,

Be it further resolved, that a bilateral commission representing local governments, business interests, and aboriginal stakeholders be created to define the goals and objectives for the cooperative feasability study, and to report the results of the study to the appropriate governmental entities of Canada and the United States; and,

Be it further resolved, that funding for operation of the bilateral commission and for the conduct of the cooperative feasability study should be considered a priority by the federal, state, provincial and territorial governments; and,

Be it further resolved that copies of this resolution shall be disseminated to local, provincial, territorial, state and federal governments in the affected regions of the United States and Canada.

Ed Asp, Dease Lake & Tahltan District

Chamber of Commerce

Laurel Barger-Sheen, Delta Junction

Chamber of Commerce

Dave Beatty, Ironworkers Local 97

Tom Blackbird

John Blair, McElhanney Land Surveys

Douglas Blamey, Whistle Poke Railway Co.

Kells Boland, Prolog Canada Inc.

Morris Booth, The Bering Connection

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Al Broadfoot, Thompson Foundry

Bill Brophy, Fairbanks Industrial

Development Corporation

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Gil Carmichael, Board of Directors, Intermodal

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Terry Chandler

Alben Chmelauskas, MacMillan Bloedel Paper Co.

Jim Christie, McElhanney Land Surveyors

Marshall Cohoe, Confederation Pacific

Roadways Ltd.

George Colquhoun

Hal Cooper, Cooper Consulting Company

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Lyle Dallman, Ahtna Enterprise Corp.

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Paul Grigsby, BC Chamber of Commerce

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(Ft. Greely Reuse Authority)

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Joe Henri, International Bering Strait

Tunnel and Rail Group

Laurie Herman, Alaska Railroad

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Steve Hites, Skagway Street Car Company

Jeannette James, Alaska House of Representatives

Scott Janke, City of Seward

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Kitac Ent. Ltd.

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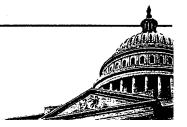
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NEWS FROM THE OFFICE OF

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uníted States Senator · Alaska



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Murkowski Introduces Alaska-Canada Railroad Extension Bill

FAIRBANKS — Alaska Sen. Frank Murkowski took another step in efforts to link the continental rail system with the Alaska Railroad when he announced today he will introduce legislation to create a bilateral U.S.-Canada Commission to study the feasibility of the rail link.

Murkowski announced legislation in the Senate that would create an 18member commission, equally appointed by the President and the Canadian government, to conduct a technological and economic feasibility study of linking the rail system in Alaska to the "nearest appropriate point" in Canada. The commission would be charged with reporting on the results of its study within five years, and it would be authorized to spend \$6 million in American funds on preliminary engineering and environmental work.

"Alaska and the Yukon both are woefully deficit in the transportation systems to move goods to market. A railroad extension might provide the essential transportation infrastructure to allow the Far North to blossom in the decades ahead, while protecting the environment. If a railroad

connection proves to be economically, environmentally and socially sound, then let's move ahead. If not, let's drop the idea. But at the very least we need this commission to give the idea a honest hearing," said Murkowski in announcing the legislation.

Last year, after discussions with a group of Canadian parliamentarians, Canadian Ambassador Raymond Chretien, Canadian Minister of Transport David Collinette, and the Canadian-American Border Trade Alliance, Murkowski suggested it might make sense to build the roughly 1,200 miles of rail that would be needed to finish the linkup. The Alaska Railroad currently ends at Eielson Air Force Base, outside of Fairbanks, about 270 miles from the Canadian border, while the Canadian rail system ends at spurs to Fort Nelson or beyond Fort St. James, both about 900 miles from the Alaskan border.

Noting that America is continuing testing on a North American anti-missile defense system, Murkowski noted this is a particularly good time to launch a review of railroad extension since one of the prime sites under consideration for a missile interceptor

base is at Delta Junction in Alaska, which could well justify construction of the first 80 miles of the Alaska Railroad's extension toward the Canadian border.

Murkowski also encouraged a railroad conference held in Vancouver, B.C. in January. He said some estimates during the conference indicated the potential for such a line to carry up to 120 million tons of freight per year — future mineral developments and timber making up the majority of the potential freight.

He noted the line would allow economic development of the mineral resources of the Yukon-Tanana uplands that stretch from Faro, Y.T., north to Fairbanks. The zone, home already to the Fort Knox gold mine in Alaska and the future home of mines working the huge Pogo gold deposit, contains large amounts of silver, tungsten, copper, lead, zinc and other ores. On the Alaska side of the border there are already more than 14 major hard-rock deposits identified, while in the Yukon there are more than 10 major mineral deposits known. This does not include the Alaska coal deposits a line could move to markets in the rest of North America or to port facilities connecting to East Asia.

Murkowski said the railroad's likely corridor is also filled with timber. He said within just 15 miles of a likely railroad corridor, there are 1.4 billion board feet of hardwood pole timber and almost 1.7 billion board feet of mixed pole timber.

"I am not an expert. I cannot verify the 120 million ton freight estimate. But it is fuel

for thought and a reason why we need a comprehensive feasibility study," said Murkowski.

He said such a study commission might be opposed by environmentalists because of their bias against the use of natural resources or fear of the opening of undeveloped land in the north by a rail line. But Murkowski said a railroad should be most favored transportation system by environmentalists since railroads have small "footprints," and are controlled access systems that prevent uncontrolled development and uncontrolled land and wildlife impacts.

Under the bill, the commission would be comprised of representatives from local communities and local/Native residents, individuals with economics, engineering and resource management backgrounds, including representatives with minerals, timber and wildlife and fisheries management training. Specifically the American side of the commission will contain two members from local communities, one representing the State of Alaska nominated by the Governor, one representing Alaska Natives, four from commercial activities including associated with the Alaska Railroad, and two scholars employed by Alaska education institutes, one with subarctic engineering expertise.

The bill will formally be introduced in the Senate on Monday, March 20. -30-

106th CONGRESS 2d Session S. 2253

To authorize the establishment of a joint United States-Canada commission to study the feasibility of connecting the rail system in Alaska to the North American continental rail system; and for other purposes.

IN THE SENATE OF THE UNITED STATES

March 20, 2000

Mr. MURKOWSKI introduced the following bill; which was read twice and referred to the Committee on Foreign Relations

A BILL

To authorize the establishment of a joint United States-Canada commission to study the feasibility of connecting the rail system in Alaska to the North American continental rail system; and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the `Rails to Resources Act of 2000'.

SEC. 2. FINDINGS.

Congress finds that--

- (1) rail transportation is an essential component of the North American intermodal transportation system;
- (2) the development of economically strong and socially stable communities in the western United States and Canada was encouraged significantly by government policies promoting the development of integrated transcontinental, interstate and interprovincial rail systems in the states, territories and provinces of the two countries;
- (3) United States and Canadian federal support for the completion of new elements of the transcontinental, interstate and interprovincial rail systems was halted before rail connections were established to the state of Alaska and the Yukon Territory;
- (4) both public and private lands in Alaska, the Yukon Territory and northern British Columbia, including lands held by aboriginal peoples, contain extensive deposits of oil, gas, coal and other minerals as well as valuable forest products which presently are inaccessible, but which could provide significant economic benefit to local communities and to both nations if an economically efficient transportation system was available;
- (5) per ton of freight moved, rail transportation systems emit lower levels of carbon monoxide, nitrogen oxides and volatile organic compounds than other modes of freight transportation;

- (6) rail transportation systems are capable of moving cargo with up to nine times the energy efficiency of highway transportation;
- (7) rail transportation in otherwise isolated areas facilitates controlled access and reduced overall impact to environmentally sensitive areas;
- (8) the extension of the continental rail system through northern British Columbia and the Yukon Territory to the current terminus of the Alaska Railroad would significantly benefit the U.S. and Canadian visitor industries by facilitating the comfortable movement of passengers over long distances while minimizing effects on the surrounding areas;
- (9) extension of the Alaska Railroad system to the Canadian border is consistent with the intent of Congress as expressed in the Alaska Railroad Organic Act of 1914, which called for a system of up to 1,000 miles in length; and
- (10) ongoing research and development efforts in the rail industry continue to increase the efficiency of rail transportation, ensure safety, and decrease the impact of rail service on the environment.

SEC. 3. AGREEMENT FOR A UNITED STATES-CANADA BILATERAL COMMISSION.

The President is authorized and urged to enter into an agreement with the government of Canada to establish a joint commission to study the technological and economic feasibility of linking the rail system in Alaska to the nearest appropriate point on the North American continental rail system.

SEC. 4. COMPOSITION OF COMMISSION.

(a) MEMBERSHIP-

- (1) TOTAL MEMBERSHIP- The Agreement should provide for the Commission to be composed of 18 members, of which 9 members are appointed by the President and 9 members are appointed by the government of Canada.
- (2) GENERAL QUALIFICATIONS- The Agreement should provide for the membership of the Commission, to the maximum extent practicable, to be representative of--
- (A) the interests of the local communities (including the governments of the communities), aboriginal peoples, and businesses that would be affected by the connection of the rail system in Alaska to the North American continental rail system; and
- (B) a broad range of expertise in areas of knowledge that are relevant to the significant issues to be considered by the Commission, including economics, engineering, management of resources (such as minerals and timber), social sciences, fish and game management, environmental sciences, and transportation.
- (b) UNITED STATES MEMBERSHIP- Under the Agreement, the President shall appoint the United States members of the Commission as follows:
- (1) Two members from among persons who are qualified to represent the interests of communities and local governments of Alaska.
 - (2) One member representing the State of Alaska, to be nominated by the Governor of Alaska.
- (3) One member from among persons who are qualified to represent the interests of Native Alaskans residing in the area of Alaska that would be affected by the extension of rail service.
- (4) Four members from among persons involved in commercial activities in Alaska who are qualified to represent commercial interests in Alaska, of which one shall be a representative of the Alaska Railroad Corporation.
- (5) Two members from among scholars employed in institutions of higher education in Alaska, at least one of whom must be an engineer with expertise in subarctic transportation.
- (c) CANADIAN MEMBERSHIP- The Agreement should provide for the Canadian membership of the Commission to be representative of broad categories of interests of Canada as the government of Canada determines appropriate, consistent with subsection (a)(2).

SEC. 5. GOVERNANCE AND STAFFING OF COMMISSION

- (a) CHAIRMAN- The Agreement should provide for the Chairman of the Commission to be elected from among the members of the Commission by a majority vote of the members.
 - (b) COMPENSATION AND EXPENSES OF UNITED STATES MEMBERS-
- (1) COMPENSATION- Each member of the Commission appointed by the President who is not an officer or employee of the Federal Government shall be compensated at a rate equal to the daily equivalent of the annual rate of basic pay prescribed for level IV of the Executive Schedule under section 5315 of title 5, United States Code, for each day (including travel time) during which such member is engaged in the performance of the duties of the Commission. Each such member who is an officer or employee of the United States shall serve without compensation in addition to that received for services as an officer or employee of the United States.
- (2) TRAVEL EXPENSES- The members of the Commission appointed by the President shall be allowed travel expenses, including per diem in lieu of subsistence, at rates authorized for employees of agencies under subchapter I of chapter 57 of title 5, United States Code, while away from their homes or regular places of business in the performance of services for the Commission.
 - (c) Staff-
- (1) IN GENERAL- The Agreement should provide for the appointment of a staff and an executive director to be the head of the staff.
- (2) COMPENSATION- Funds made available for the Commission by the United States may be used to pay the compensation of the executive director and other personnel at rates fixed by the Commission that are not in excess of the rate payable for level V of the Executive Schedule under section 5316 of title 5, United States Code.
- (d) OFFICE- The Agreement should provide for the office of the Commission to be located in a mutually agreed location within the impacted areas of Alaska, the Yukon Territory, and northern British Columbia.
- (e) MEETINGS- The Agreement should provide for the Commission to meet at least biannually to review progress and to provide guidance to staff and others, and to hold, in locations within the affected areas of Alaska, the Yukon Territory and northern British Columbia, such additional informational or public meetings as the Commission deems necessary to the conduct of its business.
- (f) PROCUREMENT OF SERVICES- The Agreement should authorize and encourage the Commission to procure by contract, to the maximum extent practicable, the services (including any temporary and intermittent services) that the Commission determines necessary for carrying out the duties of the Commission. In the case of any contract for the services of an individual, funds made available for the Commission by the United States may not be used to pay for the services of the individual at a rate that exceeds the daily equivalent of the annual rate of basic pay prescribed for level V of the Executive Schedule under section 5316 of title 5, United States Code.

SEC. 6. DUTIES.

(a) Study-

- (1) IN GENERAL- The Agreement should provide for the Commission to study and assess, on the basis of all available relevant information, the technological and economic feasibility of linking the rail system in Alaska to the North American continental rail system through the continuation of the rail system in Alaska from its northeastern terminus to a connection with the continental rail system in Canada.
- (2) SPECIFIC ISSUES- The Agreement should provide for the study and assessment to include the consideration of the following issues:
 - (A) Railroad engineering.
 - (B) Land ownership.
 - (C) Geology.

- (D) Proximity to mineral, timber and other resources.
- (E) Market outlook.
- (F) Environmental considerations.
- (G) Social effects, including changes in the use or availability of natural resources.
- (H) Potential financing mechanisms.
- (3) ROUTE- The Agreement should provide for the Commission, upon finding that it is technologically and economically feasible to link the rail system in Alaska as described in paragraph (1), to determine one or more recommended routes for the rail segment that establishes the linkage, taking into consideration cost, distance, access to potential freight markets, environmental matters, and such other factors as the Commission determines relevant.
- (4) COMBINED CORRIDOR EVALUATION- The Agreement should also provide for the Commission to consider whether it would be useful and technologically and economically feasible to combine the power transmission infrastructure and petroleum product pipelines of other utilities into one corridor with a rail extension of the rail system of Alaska.
- (b) REPORT- The Agreement should require the Commission to submit to Congress and the Secretary of Transportation and to the Minister of Transport of the government of Canada, not later than 5 years after the Commission commencement date, a report on the results of the study, including the following:
- (1) FEASIBILITY- The Commission's findings regarding the technological and economical feasibility of linking the rail system in Alaska as described in subsection (a)(1).
- (2) ROUTE- If such an action is determined technologically and economically feasible, the Commission's recommendations regarding the preferred route and any alternative routes for the rail segment establishing the linkage.

SEC. 7. COMMENCEMENT AND TERMINATION OF COMMISSION.

- (a) COMMENCEMENT- The Agreement should provide for the Commission to begin to function on the date on which all members are appointed to the Commission as provided for in the Agreement.
- (b) TERMINATION- The Commission shall terminate 90 days after the date on which the Commission submits its report under section 6.

SEC. 8. FUNDING.

- (a) RAILS TO RESOURCES FUND- The Agreement should provide for the following:
- (1) ESTABLISHMENT- The establishment of an interest-bearing account to be known as the `Rails to Resources Fund'.
- (2) CONTRIBUTIONS- The contribution by the United States and the government of Canada to the Fund of amounts that are sufficient for the Commission to carry out its duties.
- (3) AVAILABILITY- The availability of amounts in the Fund to pay the costs of Commission activities.
- (4) DISSOLUTION- Dissolution of the Fund upon the termination of the Commission and distribution of the amounts in the Fund between the United States and the government of Canada.
- (b) AUTHORIZATION OF APPROPRIATIONS- Funds are hereby authorized to be appropriated to any Fund established as described in subsection (a)(1) in the total amount of \$6,000,000, to remain available until expended.

SEC. 9. DEFINITIONS.

In this section:

- (1) AGREEMENT- The term `Agreement' means an agreement described in section 2.
- (2) COMMISSION- The term `Commission' means a commission established pursuant to any Agreement.
 - (3) COMMISSION COMMENCEMENT DATE- The date determined under section 6(a).

The North American Rail System

From Real Horses to Real Horsepower

The first primitive "railroad" in the United States used horse-drawn cars on wooden rails, but experiments with steam locomotion began in the early 1800s, and in 1831, regular steam powered service began in South Carolina. Rapid expansion followed. Four years later, over 1,000 miles of track had been laid, and there were 200 railroad charters in eleven states.

Western development in the United States spurred even greater growth. By 1860, there were 11,000 miles of track. The westward expansion also prompted the first Congressional land grants to railroads. Government leaders felt that railroads would spur settlement, and the grants allowed companies not only to retain the rights of way for rail lines but to have saleable land to offset construction costs.

In the United States, four of the first five transcontinental railroads were largely made possible by such grants, along with a considerable number of smaller lines in the western United States. A total of 131 million acres of public land was appropriated to dozens of rail-lines. A receiving company was given the right-of-way along with alternate sections of land, with the Federal Government generally raising the price of the sections it kept. In return, all rates were reduced by 50% for Federal traffic. From 1850 until the practice was ended in 1946, it is estimated that the government saved \$900 million; a considerable deal considering that the land was only worth a total of \$500 million at the time it was granted. After the Civil War ended, trackage grew from 35,000 miles to an all-time high of 254,000 miles in 1916.

Canada's first railroad began operations in 1836, but by the middle of the century, although some 40 companies had been granted

government permission to build rail lines, only six had actually laid any track, totaling only 80 miles. In 1849, the government stepped in to help, offering to lend enough money to cover half the construction costs of any line longer than 74 miles (120 kilometers).

Companies proved eager to take Canada's offer. By 1860, Canada's rail lines reached more than 2,000 miles. The first eastwest link was achieved in 1885 when the last spike in the Canadian Pacific Railway was driven. That set the tone, and in just 50 years, from 1850 to 1900, the miles of track available to Canada's railroads grew from 80 miles to 19,000.

Today, Canadian National operates about 17,000 miles of track in Canada and another 950 miles in the United States. The CN network serves all five of Canada's major ports: Halifax, Montreal, Prince Rupert, Thunder Bay, and Vancouver.

Meanwhile, Canadian Pacific operates a 15,000 mile network extending from Montreal to Vancouver and into the U.S. midwest and northeast. It serves ports on the east coasts of Canada and the U.S. and the Port of Vancouver.

Technological developments for rail lines rode the swelling tide of industrial change. Larger, more powerful locomotives, cars with larger capacities, improved couplers, the application of air-brakes, as well as adoption of standard gauge rail and standard time resulted in huge gains of efficiency and economic rail service. The development of national, rather than regional, economies in North America is owed in no small way to the influence of our railroads.

The Alaska Railroad

The history of the Alaska Railroad begins in 1903 with the Alaska Central Railway; a failed venture that managed to lay only 71 miles of track out of Seward, in an unsuccessful attempt to reach Anchorage.

But Congress still felt it was wrong that a territory twice the size of Texas had no rail system. The Alaska Railroad Organic Act of March 12, 1914 required incoming President Woodrow Wilson to construct a rail not to exceed 1,000 miles and, among other things, to "...best aid in the development of the agricultural and mineral or other resources of Alaska...and so as to provide transportation of coal for the Army and Navy, transportation of troops, arms, munitions of war,

the mails, and for other governmental and public uses." The act gave the President broad powers to acquire land, operate terminals, or



anything else that could help make the railroad a reality.

In 1915, the government purchased the remains of the Alaska Central for \$1.2 million, and selected the current route northward. In 1917, it also bought the Tanana Valley Railroad, a narrowgauge miners' line northwest of Fairbanks, for \$300,000. These acquisitions formed the nucleus of the present system.

By the end of 1920, the Alaska Engineering Commission completed 382 miles of new track, and rebuilt the original 71 miles out of Seward and 32 miles in the Tanana Valley. The main obstacle for completion were bridges to span the Tanana River and Hurricane Gulch. The Tanana bridge had a 701 foot span, which at the time was the

longest such in the United States. The Hurricane Gulch bridge spanned a total of 918 feet with a height of 296 feet.

Just before his untimely death, on July 15, 1923, President Warren G. Harding drove the golden spike officially completing the Alaska Railroad.

Military bases and construction projects starting in the 1930s spurred continued refinements to accommodate heavier loads and straighter hauls, and a large "picture postcard" terminal was built in Fairbanks. The assumption was that the latter would become the terminus for a railroad across British Columbia and the Yukon Territory to link Alaska with the railways of the lower 48 states.

World War II provided another influx of new equipment. Post-war rehabilitation encouraged passenger service and in 1946, a blue and gold streamliner, the AuRoRa, made its first run between Anchorage and Fairbanks. For military purposes, a spur to Whittier had been established by tunneling next to Portage Glacier in 1944.

Also during World War II, in 1942, U.S. Army Engineers surveyed a route that would have taken the railroad all the way from Fairbanks to Prince George, British Columbia, connection to the North American rail system there, and extended the Alaska portion of the line all the way to Teller, on the northwest coast.

Although the latter parts of the onceplanned system have not yet been built, the U.S. Department of Defense has consistently maintained that Alaska's strategic location remains critical, and that rail is an essential element of a comprehensive defense transportation system.

The Alaska Railroad was transferred from the Federal Government to the State of Alaska in 1983, and today it remains a great asset.

Proposed Railroad Corridor Resources

The Tanana uplands, which stretch over 250 miles from the Yukon Territory into Fairbanks, Alaska, appears to be rich in base metal potential (gold, silver, copper, lead, zinc, molybdenum, and tin). Because of the lack of infrastructure, there has been little detailed exploration for base metals other than gold in this region. With rail access, there is no question that significant new base metal deposits will be identified.

The Uplands have a history of incredible resource potential dating back to the gold rush days along the Yukon River. Today the area still remains mostly as it was then: inaccessible. In spite of this, one of the most productive gold mines in the United States, Fort Knox, operates just outside of Fairbanks and produces over 1,000 ounces of gold per day. Access is currently being worked out to reach the Pogo deposit, further to the east, which contains an estimated 5.2 million ounces of gold. Although gold is still a draw, the uplands contain tremendous amounts of silver, tungsten, copper,



Silver/gold prospect in the Chulitna mining district. -photo by K. H. Clautice

lead, zinc, and other minerals in identified deposits.

Further to the northwest lies the largest coal field in the United States near Point Lay. Not only is this coal very near the surface, but it is of exceptional quality averaging 12,000 BTUs and an extremely low sulfur content of less than 0.02%. Not far south from Point Lay is the Red Dog zinc mine, which last summer announced new finds. Unfortunately, the mine can only ship product for a few months of the year when pack ice retreats

enough to allow barge traffic. The Matanuska-Susitna Valley region to the south hides yet another large, high quality coal deposit that already sits on the Alaska Railroad line. With the development of a connection, this would be available for shipment to the rest of the continent.

Claim staking activity in Alaska also has a traditional fall-off curve, but recent years have not seen that tradition followed. 1998 was the third \$1 billion year for mining in Alaska. Staking continued strong through the summer of 1999 with results still being processed. Figure 1 shows a select list of Alaska mines near the railroad corridor.

On the other side of the border in the Yukon, active mining, approvals, and exploration are all ongoing, but with similar access problems as occur in Alaska. 1998 mineral production exceeded \$100 million (Canadian), and the industry continues to play the largest role in the private sector economy of the territory. Recent exploration and development activity has reached a peak not seen since the Klondike Gold Rush. With a government committed to seeing a healthy investment climate for the mining industry combined with citizen support, mining potential for the Yukon has far to go. Figure 2 shows a few mines in the Yukon Territory near the proposed corridor.

Forestry information along the proposed corridor is similarly bright, but yet again with similar access problems. Within 15 miles of the corridor from the Yukon to Fairbanks lies 117 million cubic feet of hardwood pole timber and 141 million cubic feet of mixed pole timber. The Ladue River valley alone has the potential to create a chipping industry in Alaska even with its low-value fiber.

The forest products industry is still a fledgling in the Yukon Territory, but activity has developed throughout the last couple of decades in the Watson Lake area. Other potential areas include Mayo, Dawson City, Teslin, and Haines Junction. Timber supply shortages in the northwest combined with increased demand in Asian markets keep the future of this industry positive, but much of the territory has yet to be surveyed.

figure 1, mining data in Alaska

Alaska Mines	Ownership	Resource Information
Koyukuk-Huges mining district	production mostly from Alaska Gold Co.	231,000 oz Au produced 1930-1995
Innoko-Tolstoi mining district		Placer Au district; significant Au-Sb-Hg potential 706,267 oz Au produced through 1995
Hot Springs mining district	(numerous)	Placer Au-Sn district; 568,632 oz Au and 720,000 lb cassiterite produced through 1995
Fairbanks mining district	(numerous)	8,022,434 oz placer Au 1902-1995; 304,548 oz Au and over 4 million lbs Sb from veins and shear zones produced through 1990
Fort Knox	Kinross Gold Corp.	3,745,000 oz Au proven and probable reserves open at depth; 702,295 oz Au produced between 1996 and 1998
Ryan Lode	reclaimation by La Teko Resources Inc.	822,200 oz Au and 2.4 million oz Au in two shear zones
Grant Mine		212,000 tons of 0.36 oz/ton Au
True North	La Teko Resources Inc.	Estimated 1,314,000 oz Au
Gil Claims	Kinross Gold Corp./ Teryl Resources Corp.	Resource of 433,000 oz Au
Delta massive sulfide belt		40 million ton reserve containing percentages of: Cu, Zn, Pb, Ag, Au
Taurus		Cu-Au prospect; 140 million ton reserve containing percentages of: Cu, Au, Mo
Big Creek/Ladue		Pb-An-Ag massive sulfide prospects
Slate Creek	Slate Creek	55 million tons of 6.3% high quality chrysotile asbestos
Fortymile mining district	Kennecott Exploration Co.	Placer Au district; 534,974 oz Au produced 1883-1995
Pogo	Teck Corp./Sumitomo Metal Mining America Inc.	5.2 million oz Au reserves; exploration and development on-going
Red Dog Mine*	Cominco Alaska Inc.	157,8 million tons proven and probable reserves containing percentages of Zn, Pb, Ag; production and exploration on-going; over 1 million tons of concentrate produced in 1998

^{*}Red Dog Mine, in Northwest Alaska, could become the terminus for a spur from Fairbanks to the Ambler mining district.

figure 2, mining data in the Yukon Territory

Yukon Mines	Ownership	Resource information
Brewery Creek Mine	Viceroy Resouce Corp.	613,000 contained oz Au; 1997-1998 production of 125,025 oz Au
Kudz Ze Kayah Property	Cominco Ltd.	13 million ton reserve containing percentages of: Cu, Pb, Zn, Ag, Au; final approvals expected in 1999
Sa Dena Hes Property	Cominco Ltd.	3.2 million ton reserve containing percentages of: Pb, Zn, Ag; opened in 1991 but closed in 1992 due to low prices
Wolverine Property	Boliden Ltd./Atna Resources Ltd.	6.237 million ton reserve containing percentages of: Cu, Pb, Zn, Ag, Au; further delineation planned
Minto	Asarco Inc./Minto Explorations Ltd.	7.2 million ton reserve containing percentages of: Cu, Ag, Au; production planned for late 2000
Carmacks Copper	Western Copper Holdings Ltd.	14.1 million ton reserve containing percentages of: Cu, Au; undergoing final stages of environmental assesment
Division Mt. Coal	Cash Resources	52.9 million ton resource at 9,328 BTU/lb and 0.43% Sulfer; under study with environmental assesement to begin next year
Wolverine	Atna Resources/ Expatriate Resources	6.2 million ton reserve containing percentages of: Zn, Cu, Pb, Ag, Au; metallurgical work planned
Wolf	Atna Resources/YGC Resources	4.1 million ton inferred resource containing percentages of: Zn, Pb, Ag; further exploration planned
Fyre Lake	Pacific Ridge Exploration	15.4 million tons preliminary resource containing percentages of: Cu, Co, Au; still in exploration

